

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

1. A method of communicating, comprising the steps
of:

5 transmitting information from a first device to a
second device;

receiving, by the second device, the information which
has been transmitted;

10 determining, by the second device, a communication
protocol utilized by the first device; and

parsing, by the second device, the information
transmitted by the first device using the communication
protocol which has been determined.

15 2. A method according to claim 1, wherein the
determining step comprises:

determining the communication protocol by examining if
the information which has been transmitted includes an
identifier.

20 3. A method according to claim 2, wherein the
determining step further comprises:

looking up the identifier in a data base to determine
a communication protocol corresponding to the identifier.

4. A method according to claim 3, wherein the step of
looking up comprises:

25 looking up the identifier in the data base to
determine a format of a header of the transmission;

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parsing the header of the transmission using the
format of the header which was determined; and

determining the communication protocol using
information in the header which was parsed using the format
of the header.

5 5. A method according to claim 1, wherein the
determining step comprises:

determining the communication protocol by examining if
the information which has been transmitted includes a
communication protocol identifier.

10 6. A method according to claim 1, wherein the
determining step comprises:

determining if the information which has been
transmitted is arranged in a same format as a predetermined
format.

15 7. A method according to claim 1, wherein the
determining step comprises:

determining if the information which has been
transmitted has a plurality of fields having a same format
as one of a plurality of predetermined formats.

20 8. A method according to claim 4, wherein the
determining step comprises:

determining if the information which has been
transmitted has a plurality of fields having a same format
as one of a plurality of predetermined formats by
sequentially comparing the plurality of fields with the

plurality of predetermined formats in an order starting with a predetermined format which is most common.

9. A method according to claim 8, wherein the determining step comprises:

5 determining if the information which has been transmitted has a plurality of fields having a same format as one of a plurality of predetermined formats by sequentially comparing the plurality of fields with the plurality of predetermined formats in a generally descending order from most common format to least common format.

10 10. A method according to claim 9, further comprising the step of:

15 sorting the predetermined formats from most common format to least common format.

11. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from a business office device.

20 12. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from the first device which is a copier.

25 13. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from the first device which is a printer.

14. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from the first device which is a facsimile machine.

15. A method according to claim 1, wherein the transmitting step comprises transmitting the information from the first device which is a digital camera.

16. A method according to claim 6, wherein the step of determining examines said predetermined format which indicates values which must exist in order to determine if there is the same format.

17. A method according to claim 16, wherein the step of determining examines said predetermined format which indicates values of at least one of bits and bytes which must exist in order to determine if there is the same format.

18. A method according to claim 1, further comprising the step of:

looking up, after the step of determining, information of the communication protocol utilized by the first device in a data base containing a plurality of communication protocols,

wherein the parsing step comprises parsing the information transmitted by the first device using the information of the communication protocol determined in the step of looking up.

19. A system for communicating, comprising:

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a first device for transmitting information;
a second device which receives the transmitted
information from the first device, including:

5 means for determining a communication protocol
utilized by the first device; and

means for parsing the information transmitted by
the first device using the communication protocol which has
been determined.

10 20. A system according to claim 19, wherein the means
for determining comprises:

means for determining the communication protocol by
examining if the information which has been transmitted
includes an identifier.

15 21. A system according to claim 20, wherein the means
for determining comprises: *a*

means for looking up the identifier in a data base to
determine a communication protocol corresponding to the
identifier.

20 22. A system according to claim 22, wherein the means
for looking up comprises:

means for looking up the identifier in the data base
to determine a format of a header of the transmission;

means for parsing the header of the transmission using
the format of the header which was determined; and

25 means for determining the communication protocol using
information in the header which was parsed using the format
of the header.

23. A system according to claim 19, wherein the means for determining comprises:

means for determining the communication protocol by examining if the information which has been transmitted includes a communication protocol identifier.

24. A system according to claim 19, wherein the means for determining comprises:

means for determining if the information which has been transmitted is arranged in a same format as a predetermined format.

25. A system according to claim 19, wherein the means for determining comprises:

means for determining if the information which has been transmitted has a plurality of fields having a same format as one of a plurality of predetermined formats.

26. A system according to claim 22, wherein the means for determining comprises:

means for determining if the information which has been transmitted has a plurality of fields having a same format as one of a plurality of predetermined formats by sequentially comparing the plurality of fields with the plurality of predetermined formats in an order starting with a predetermined format which is most common.

27. A system according to claim 26, wherein the means for determining comprises:

means for determining if the information which has been transmitted has a plurality of fields having a same

format as one of a plurality of predetermined formats by sequentially comparing the plurality of fields with the plurality of predetermined formats in a generally descending order from most common format to least common format.

28. A system according to claim 27, further comprising:

means for sorting the predetermined formats from most common format to least common format.

29. A system according to claim 19, wherein: the first device is a business office device.

30. A system according to claim 19, wherein: the first device is a copier.

31. ~~32.~~ A system according to claim 19, wherein: the first device is a printer.

32. ~~33.~~ A system according to claim 19, wherein: the first device is a facsimile machine.

33. ~~34.~~ A system according to claim 19, wherein: the first device is a digital camera.

34. ~~35.~~ A system according to claim 24, wherein the means for determining comprises:

means for examining said predetermined format which indicates values which must exist in order to determine if there is the same format.

35. ~~36.~~ A system according to claim ³⁴~~35~~, wherein the means for determining comprises:

means for examining said predetermined format which indicates values of at least one of bits and bytes which must exist in order to determine if there is the same format.

5 36. 37. A system according to claim 19, wherein the second device further comprises:

means for looking up information of the communication protocol utilized by the first device in a data base containing a plurality of communication protocols,

10 wherein the means for parsing comprises means for parsing the information transmitted by the first device using the information of the communication protocol determined by the means for looking up.

15 37. 38. A method of diagnosing a first device by a second device which has an ability to diagnose different types of devices, comprising the steps of:

transmitting information from the first device to the second device;

20 receiving, by the second device, the information which has been transmitted;

determining, by the second device, a type of the first device;

25 parsing, by the second device, the information transmitted by the first device using the communication protocol which has been determined; and

diagnosing a condition of the first device by the second device using the information which has been parsed.

38. 39. A method according to claim ³⁷38, wherein the parsing step comprises:

parsing the information using one of a plurality of protocols which corresponds to a type of the device.

5 39. 40. A method according to claim ³⁸39, further comprising the step of:

selecting a communication protocol, used by the parsing step, from a plurality of communication protocols stored in a data base which defines a plurality of communication formats.

10 40. 41. A method according to claim ³⁹39, wherein the selecting step comprises:

selecting a communication protocol for a facsimile machine from the data base which contains communication protocols for both facsimile machines and copier machines.

15 41. 42. A method according to claim ³⁸39, wherein the selecting step comprises:

selecting a communication protocol for a copier machine from the data base which contains communication protocols for both facsimile machines and copier machines.

20 42. 43. A method according to claim ³⁷38, further comprising the step of:

controlling the first device by the second device by transmitting control information from the first device to the second device using the communication protocol which has been determined.

43. 44. A system for remotely diagnosing devices,
comprising:

a first device which is remotely diagnosed, including:
means for transmitting information;

5 a second device for performing a remote diagnosis of
the first device, including:

means for receiving the information which has
been transmitted by the first device;

means for determining a type of the first device;

10 means for parsing the information transmitted by
the first device using the communication protocol which has
been determined; and

15 means for diagnosing a condition of the first
device by the second device using the information which has
been parsed.

44. 45. A system according to claim ⁴³44, wherein the means
for parsing comprises:

20 means for parsing the information using one of a
plurality of protocols which corresponds to a type of the
device.

45. 46. A system according to claim ⁴⁴45, wherein the
second device further comprises:

25 means for selecting a communication protocol, used by
the means for parsing, from a plurality of communication
protocols stored in a data base which defines a plurality
of communication formats.

46. 47. A system according to claim ⁴⁵46, wherein the means for selecting comprises:

means for selecting a communication protocol for a facsimile machine from the data base which contains communication protocols for both facsimile machines and copier machines.

47. 48. A system according to claim ⁴⁵46, wherein the means for selecting comprises:

means for selecting a communication protocol for a copier machine from the data base which contains communication protocols for both facsimile machines and copier machines.

48. 49. A system according to claim ⁴³44, wherein the second device further comprises:

means for controlling the first device by the second device by transmitting control information from the first device to the second device using the communication protocol which has been determined.

49. 50. A method of controlling a first device by a second device which has an ability to control different types of devices, comprising the steps of:

determining, by the second device, a type of the first device;

determining, by the second device, a communication protocol utilized by the first device;

constructing, by the second device, a message containing an instruction for controlling the first device;

transmitting the message from the second device to the first device;

receiving, by the first device, the message transmitted by the second device; and

performing, by the first device, an operation in response to the message transmitted by the first device.

50. 51. A method according to claim ⁴⁹50, wherein the step of determining the communication protocol comprises:

determining the communication protocol from a plurality of protocols.

51. 52. A method according to claim ⁵⁰51, wherein the step of determining the communication protocol comprises:

determining the communication protocol from a plurality of protocols having different data formats.

52. 53. A method according to claim ⁴⁹50, wherein the step of performing an operation comprises:

transmitting information within a memory of the first device to the second device.

53. 54. A method according to claim ⁴⁹50, wherein the step of performing an operation comprises:

altering contents of a memory within the first device.

54. 55. A method according to claim ⁴⁹50, wherein the step of performing an operation comprises:

performing an electrical-mechanical operation within the first device.

55. 56. A method according to claim ⁴⁹50, wherein the step of performing an operation comprises:

performing an operation in the first device which is a facsimile machine.

56. 57. A method according to claim ⁴⁹ 50, wherein the step of performing an operation comprises:

5 performing an operation in the first device which is a copier machine.

57. 58. A method according to claim ⁴⁹ 50, wherein the step of performing an operation comprises:

10 performing an operation in the first device which is a printer.

58. 59. A system of controlling remote devices, comprising:

a second device for controlling a first device, including:

15 means for determining a type of the first device;

means for determining a communication protocol utilized by the first device;

means for constructing a message containing an instruction for controlling the first device; and

20 means for transmitting the message from the second device to the first device, and

the first device, comprising:

means for receiving the message transmitted by the second device; and

25 means for performing an operation in response to the message transmitted by the first device.

59. 60. A system according to claim ⁵⁸59, wherein the means for determining the communication protocol comprises:

means for determining the communication protocol from a plurality of protocols.

5 60. 61. A system according to claim ⁵⁹60, wherein the means for determining the communication protocol comprises:

means for determining the communication protocol from a plurality of protocols having different data formats.

10 61. 62. A system according to claim ⁵⁹59, wherein the means for performing an operation comprises:

means for transmitting information within a memory of the first device to the second device.

15 62. 63. A system according to claim ⁵⁸59, wherein the means for performing an operation comprises:

means for altering contents of a memory within the first device.

63. 64. A system according to claim ⁵⁸59, wherein the means for performing an operation comprises:

20 means for performing an electrical-mechanical operation within the first device.

64. 65. A system according to claim ⁵⁸59, wherein the first device is a facsimile machine.

65. 66. A system according to claim ⁵⁸59, wherein the first device is a copier machine.

25 66. 67. A system according to claim ⁵⁸59, wherein the first device is a printer.

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67. 68. A memory containing a data structure which stores information defining requirements for communications, comprising:

a data structure stored in said memory including:

5 a field for storing a byte number of a byte of a received communication; and

a field for storing a value which must appear in said byte.

68. 69. A memory according to claim ⁶⁷68, wherein:

10 said field for storing a value stores a range of said value.

69. 70. A memory according to claim ⁶⁷68, wherein said data structure further includes:

15 a field for storing a bit number of a bit of a received communication; and

a field for storing a value which must appear in said bit.

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